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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/627,548
Filing Date: July 25, 2003
Appellant(s): AOKI ET AL.

Chad C. Walters
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02 June 2008 appealing from the Office action mailed 02 January 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 7,072,580 B2	ARECCO et al.	7-2006
US 5,612,805 A	FEVRIER et al.	3-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-5, 7-9, 11, 13-15, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Arecco et al. (US 7,072,580 B2).

Regarding **claims 1 and 11**, Arecco et al. disclose a system for communicating optical traffic between ring networks (Figures 16 and 21-24), comprising:

a first optical ring network and a second optical ring network (“Network 1” and “Network 2” shown in Figures 21-24), each optical ring network operable to communicate optical traffic comprising a plurality of wavelengths;

a first ring interconnect (RIC) node (nodes D and D’, which each comprise a plurality of elements as shown in Figure 16) and a second RIC node (nodes E and E’, which also each comprise a plurality of elements as shown in Figure 16), each RIC node coupled to the first and second optical ring networks (column 26, lines 37-58);

the first RIC node D and D’ operable to communicate optical traffic between the first and second optical ring networks;

wherein the second RIC node E and E’ is inactive under normal system operation and not operable to communicate optical traffic between the first and second optical ring networks when the first RIC node D and D’ is able to communicate optical traffic between the first and second optical ring networks (Figure 21 shows normal system operation, wherein nodes E and E’ are not operable to communicate optical traffic between the rings; column 26, lines 37-67; column 27, lines 1-57);

the second RIC node E and E' comprising a rejection block operable to detect traffic of one or more wavelengths to determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (switch 215 in nodes E and E' is operable to detect a failure in the first RIC node; Figures 16-18; column 23, lines 26-33; column 25, lines 8-30; column 28, lines 61-67; column 29, lines 1-3); and

the second RIC node E and E' operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (Figure 23; column 28, lines 61-67; column 29, lines 1-47).

Examiner respectfully notes that Arecco et al. specifically disclose that even “when a failure occurs on one of the two rings (or on both), communication is switched onto the protection channels and signals S1 and S2 are still transferred between the two rings by the D-D' (primary nodes) connection....In case of failure of gateway node D, communication between nodes B and C' and, in general, between Network 1 and Network 2, can be guaranteed by the optical connection between the secondary nodes E and E'.” (column 27, lines 61-65 and column 28, lines 61-64). In other words, Arecco et al. disclose that nodes D and D' comprise a first “primary” ring interconnect node for use under normal operation, and nodes E and E' comprise a second “secondary” ring interconnect node specifically for use when the primary ring interconnect node has failed.

Examiner also respectfully notes that Arecco et al. disclose that the second RIC node (comprising nodes E and E') includes “a rejection block” element in the sense that the second RIC node includes receiving elements such as shown in Figure 16 that detect failures (column

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23, lines 26-33; column 25, lines 8-30) and is therefore “operable to detect traffic of one or more wavelengths to determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks.” Arecco et al. also disclose that the second RIC node includes switch elements which are operable to reject/block signals in certain directions within the node depending on the desired direction of traffic in the network. However, Examiner respectfully notes that the claims do not specifically recite an element operable to perform steps of “rejecting” or “blocking”; the claims only recite that the rejection block is “operable to detect traffic of one or more wavelengths....”

Regarding **claims 3 and 13**, Arecco et al. disclose that the first RIC node (i.e., nodes D and D') is operable to:

receive optical traffic from the first optical ring network (i.e., “Network 1” shown in Figures 21 and 22);

passively pass through a first copy of the optical traffic along the first optical ring;

drop a second copy of the optical traffic;

select one or more wavelengths of the dropped optical traffic (column 26, lines 59-67; column 27, lines 1-3); and

communicate the one or more wavelengths to the second optical ring network (column 27, lines 4-67; column 28, lines 1-13).

Figure 21 shows how a first copy of S1 is passed along a ring (in this case, “Network 1”) while a second copy is dropped to the other ring (“Network 2”) and similarly, a first copy of S2 is also passed along a ring (“Network 2”) while a second copy is dropped to the other ring (“Network 1”).

Regarding **claims 4 and 14**, Arecco et al. disclose that the second RIC node (i.e., nodes E and E') is operable to:

determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (column 23, lines 26-33; column 25, lines 8-30);

receive the first copy of the optical traffic from the first RIC node (i.e., nodes D and D');

passively pass through a third copy of the optical traffic along the first optical ring;

drop a fourth copy of the optical traffic;

select one or more wavelengths of the dropped optical traffic; and

communicate the one or more wavelengths to the second optical ring network when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (Figures 22-24; column 27, lines 58-67; column 28, lines 1-67; column 29, lines 1-67; column 30, lines 1-39).

Regarding **claims 5 and 15**, Arecco et al. disclose that the first and second RIC nodes each comprise a wavelength select unit (switch unit 215) operable to select one or more wavelengths of optical traffic for communication between the first and second optical ring networks (Figure 16; column 24, lines 21-53; column 26, lines 37-67; column 27, lines 1-3).

Regarding **claims 7 and 17**, as well as the claims may be understood with respect to the claim objection discussed above, Arecco et al. disclose that at least one wavelength select unit comprises a number of switches 232 for selectively forwarding a number wavelengths of optical traffic for communication between the first and second optical ring networks (Figure 16; column 24, lines 21-53; column 26, lines 37-67; column 27, lines 1-3).

Regarding **claims 8 and 18**, Arecco et al. disclose that the second RIC node (i.e., nodes E and E') is operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is unable to perform such communication due to a failure of the first RIC node (Figures 23 and 24; column 28, lines 61-67; column 29, lines 1-67; column 30, lines 1-39).

Regarding **claims 9 and 19**, Arecco et al. disclose that the second RIC node (i.e., nodes E and E') is operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is unable to perform such communication due to a fiber cut to the first optical ring network (Figure 22; column 27, lines 58-67; column 28, lines 1-60).

Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arecco et al. in view of Fevrier et al. (US 5,612,805 A).

Regarding **claims 6 and 16**, Arecco et al. disclose a system and method as discussed above with regard to claims 1 and 5 and claims 11 and 15 above, including wavelength select units. Arecco et al. do not specifically disclose that at least one wavelength select unit comprises a tunable filter array comprising a first number of tunable filters.

However, Fevrier et al. teach a system that is related to the one disclosed by Arecco et al. including adding and dropping signals in a ring network (Figures 5 and 6; column 9, lines 57-67; column 10, lines 1-7). Fevrier et al. further teach nodes including wavelength select units, wherein a wavelength select unit comprises a tunable filter array comprising a first number of tunable filters $F_{1...n}^T$ (Figure 5; column 8, lines 56-67; column 9, lines 1-26).

Regarding claims 6 and 16, it would have been obvious to a person of ordinary skill in the art include a tunable filter array comprising a first number of tunable filters as taught by

Fevrier et al. in the system and method disclosed by Arecco et al. in order to advantageously be able to reconfigure the desired wavelengths using tunable filters and thereby more flexibly redirect channels in the network in the event of failure (Fevrier et al, column 2, lines 2-17 and lines 57-67). One in the art would have been particularly motivated to use tunable filters as taught by Fevrier et al. in the system and method disclosed by Arecco et al. since the system disclosed by Arecco et al. is already directed to protecting against network failures by redirecting traffic.

(10) Response to Argument

Examiner respectfully disagrees with Appellant's assertion on pages 13-15 of the Brief that Arecco et al. do not disclose a second RIC that is "inactive under normal system operation" as recited in claims 1 and 11. Examiner respectfully maintains that Arecco et al. disclose that the second RIC node E and E' is "inactive under normal system operation and not operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is able to communicate optical traffic between the first and second optical ring networks" as recited in the claims. Specifically, Figure 21 of Arecco et al. shows normal system operation, wherein nodes E and E' are *not operable* to communicate optical traffic between the rings (column 26, lines 37-67; column 27, lines 1-57). Although Arecco et al. disclose that nodes E and E' pass signals from input ports to output ports in the normal system operation as shown in Figure 21, Arecco et al. specifically discloses that in the normal operation, traffic is communicated between the rings via nodes D and D', not via nodes E and E'. Figure 21, for example, clearly shows how traffic comprising signals S1 and S2 is communicated between node B of ring network 1 and node C' of ring network 2 through nodes D and D' only, not through

node E and E'. The signals passed through nodes E and E' from nodes D and D' are also *prevented from entering the rings* by nodes D and D' and therefore nodes E and E' are not used to communicate optical traffic between the rings in normal operation.

Regarding Appellant's particular argument on page 14 of the Brief that Arecco et al. disclose that "under normal operative conditions, signal S1...passes through node C and is received by node D, where it is split into a first and a second fraction (50% of power) which are sent towards nodes E and D'" (Arecco et al., column 26, lines 61-66), Examiner respectfully maintains that Arecco et al. further disclose that the signal that is "sent toward" node E under normal operation *does not reach the rest of the second ring for communication*. Figure 21 shows that only the signal sent toward node D' continues into the second ring to actually enable communication between a node of the first ring and a node of the second ring. Under normal operation, the part of signal S1 sent toward node E is ultimately blocked at node D' and does not proceed into the second ring. Even though signals are sent toward nodes E and E', Examiner respectfully maintains that under normal operation, nodes E and E' are "not operable to communicate optical traffic between the first and second optical ring networks" and are "inactive under normal system operation" as recited in the claims.

Examiner respectfully notes that Arecco et al. specifically disclose that even "when a failure occurs on one of the two rings (or on both), communication is switched onto the protection channels and signals S 1 and S2 are still transferred between the two rings by the D-D' (primary nodes) connection....In case of failure of gateway node D, communication between nodes B and C' and, in general, between Network 1 and Network 2, can be guaranteed by the optical connection between the secondary nodes E and E'." (column 27, lines 61-65 and column

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28, lines 61-64). In other words, Arecco et al. disclose that nodes D and D' comprise a first ("primary") ring interconnect node for use under normal operation, and nodes E and E' comprise a second ("secondary") ring interconnect node specifically for use when the primary ring interconnect node has failed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Christina Y. Leung/

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